William A. Bonnet
Vice President
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November 1, 2004

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PUBLIC UTILITIES COMMISSION

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
465 South King Street
Kekuanaoa Building, 1st Floor
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 03-0371 – Proceeding to Investigate Distributed Generation in Hawaii

Pursuant to Prehearing Order No. 20922, filed April 23, 2004, attached are HECO/HELCO/MECO's rebuttal testimony information requests ("RIRs") to the County of Maui and the Hawaii Renewable Energy Alliance.*

Sincerely,

Attachment

cc: Division of Consumer Advocacy (3)
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* HECO/HELCO/MECO does not have RIRs for the Consumer Advocate, Hess Microgen LLC, Life of the Land, Kauai Island Utility Cooperative and the County of Kauai.

HECO/HELCO/MECO
Rebuttal Testimony ("RT") Rebuttal Information Requests ("RIRs") to the County of Maui ("Maui")

HECO/Maui-RT-RIR-1 Ref: COM-RT-2, page 2, lines 13-26

a. Please provide copies of any published studies or reports you relied upon to conclude that "market power was determined to be a primary cause of the west coast energy crisis of 2000-2001."
b. In your opinion, were there any other primary causes of this west coast energy crisis?
c. Please provide copies of any published studies or reports you rely upon to form your opinion in response to part b. above.
d. Provide copies of any published materials in the economics discipline that support the following statement: "Market power is often measured by what is known as the Herfindahl-Hirschman Index, or HHI…"
e. Is it correct to interpret from your rebuttal testimony that you equate market concentration with market power?
f. In your opinion, is the "HHI, which turns market shares into a market concentration", the sole factor or measure to use in assessing the degree of market power in a market or are there other factors or measures to consider?

HECO/Maui-RT-RIR-2 Ref: COM-RT-2, page 5, lines 10-14

a. Please provide copies of any empirical evidence that you have from existing DG or CHP markets suggesting that the supply of CHP systems in "a highly concentrated marketplace … would deter competition, potentially obstruct innovation, and delay market development."
b. In your opinion, can government regulation in highly concentrated markets serve to mitigate market power?

HECO/Maui-RT-RIR-3 Ref: COM-RT-2, page 21, lines 23-27

a. What is your basis for the "one-half" value in the following recommendation: "Initially, I would recommend that the Standby Reservation Charge be set at one-half of the transmission and distribution charges in tariff rates."
b. Please provide your calculation and supporting analysis for the "one-half" value in the following recommendation: "Initially, I would recommend that the Standby Reservation Charge be set at one-half of the transmission and distribution charges in tariff rates."

HECO/Maui-RT-RIR-4 Ref: COM-RT-2, page 24, lines 1-23

a. Please define what you mean by "*efficiency*".
b. Please define what you mean by "*equity*".
c. Are you suggesting that setting rates based on embedded costs is "an *equity* consideration, not an *efficiency* consideration"?
d. If rates were set based on an *efficiency* consideration, would all rates be based on marginal cost?

e. Do customers who buy and use energy from the utility's system rely on the entire mix of generation on that system or only the marginal generation capacity?
f. If the utility installed new generation that had an installed capacity cost that was lower than the capacity cost of some existing generation unit, which unit (the new or the existing) should be used in your marginal cost analysis?

HECO/Maui-RT-RIR-5 Ref: COM-RT-2, page 25, lines 6-8

a. What is your basis for the "one-third" value in the following recommendation: "I propose that one-third of the normal standby demand charge (both standby reservation charge and as-used daily standby demand charge) apply to best-efforts customers."
b. Please provide your calculation and supporting analysis for the "one-third" value in the following recommendation: "I propose that one-third of the normal standby demand charge (both standby reservation charge and as-used daily standby demand charge) apply to best-efforts customers."
c. When a customer pays the "as-used daily standby demand charge", what facilities owned by the utility are being used to provide the service, and is the cost of that service equal to one-third of the total costs related to those facilities?

HECO/Maui-RT-RIR-6 Ref: COM-RT-2, page 26, lines 18-25

Please provide your calculations demonstrating that (for your hypothetical customer) "...another 100 to 300 hours of usage per month – would be much cheaper than the current level of usage."

HECO/Maui-RT-RIR-7 Ref: COM-RT-2, page 29, lines 1-4

Please provide copies of all studies including all data used in which you analyzed the effectiveness of time of use pricing for residential customers and "large customers".

HECO/Maui-RT-RIR-8 Ref: COM-RT-2, page 7, lines 7-21

a. Please provide the workpapers showing the derivation of each on the unit costs shown in the table in the referenced testimony.
b. Is it the County of Maui's position that the avoided costs of future generation, transmission, and distribution are collected or reflected in HECO's current rates? If yes, please provide evidence to support the County of Maui's position.
c. Is it the County of Maui witness' understanding that HECO's current rates are based on embedded costs, and do not reflect nor include avoided costs? If the answer is anything other than an unqualified "yes", please fully explain your response.
d. If HECO's current rates are based on embedded costs and do not reflect nor include avoided costs, why would the County of Maui net out avoided costs from the lost revenues resulting from non-utility or third party DG to determine the impact of such lost revenues on rates to non-DG customers?

HECO/Maui-RT-RIR-9 Ref: COM-RT-2, page 6, line 9, to page 9, line 20

a. The table on page 9 shows the MECO Avoided Marginal Cost in $/year at 500 kW. Maui's annual growth in demand may be anywhere from 3 MW to 5 MW. Will a 500 kW DG unit be sufficient to defer the need for central-station generation by one year?
b. If the response to part a. above is yes, please explain how.
c. If the response to part a. above is no, then what would be the total avoided capacity cost associated with such a 500 kW DG unit?
d. If a 500 kW DG unit is not sufficient to defer the need for a central-station generating unit by one year, then will the MECO Retail Lost Margin from a 500 kW Customer, shown on page 7, be greater than the net benefit shown in the MECO Avoided Marginal Cost on page 9?
e. If the response to part d. above is no, please explain why not.
f. If the response to part d. above is yes, then will this cause upward pressure on rates? If not, please explain why not.

HECO/Maui-RT-RIR-10 Ref: COM-RT-2, page 13, lines 20-21

a. Does DSM result in the reduction in utility energy sales compared to what they would have otherwise been without DSM?
b. If the response to part a. above is no, please explain why not.
c. If the response to part a. above is yes, then would the fixed costs incurred by the utility to serve existing customers need to be spread over a smaller amount of sales? If not, please explain why not.
d. If the fixed costs incurred by the utility to serve existing customers is spread over a smaller amount of sales, then would this result in the need for higher rates to recover the utility's fixed costs from remaining sales? If not, please explain why not.
e. Would customer-owned distributed generation systems result in the reduction in utility energy sales compared to what they would have otherwise been without the customer-owned distributed generation systems?

HECO/Maui-RT-RIR-11 Ref: COM-RT-1, page 5, lines 22 - 24

a. Was WPPI-III's DG system dispatchable by the utility?
b. Was the maintenance of WPPI-III's DG system planned and coordinated in any way with the electric utility?
c. Did the Commission's decision in Docket No. 4779 broadly address the scenario of DG systems owned and operated by the electric utility, or was it focused on determining whether a specific 3rd party-owned DG installation was a utility service?
d. If the Commission's decision in Docket No. 4779 did not broadly address the scenario of DG systems owned and operated by the electric utility, explain how a finding that WPPI-III's DG system was not a utility service sets a precedent for HECO's proposed CHP Program.

HECO/Maui-RT-RIR-12 Ref: COM-RT-1, page 6, lines 18-19
Please identify where in "HECO's recommendation" it is implied that the Commission should allow public utilities to provide non-utility services on a regulated basis.

HECO/Maui-RT-RIR-13 Ref: COM-RT-1, page 6, lines 19-22

a. Is it the County Maui's position that any type of system provided to serve an individual customer is a private system, which should not be regulated by the Commission?
b. What is the County of Maui's position regarding the electric utility providing and maintaining generators at customer locations for emergency purposes? Does the County of Maui believe such generators, since they serve an individual customer, are therefore private systems not subject to regulation by the Commission?

HECO/Maui-RT-RIR-14 Ref: COM-RT-1, page 7, lines 4-9
HECO has provided information regarding Progress Energy Carolina's Premier Power Service Rider, a regulated utility program where the utility provides generators to customers primarily to serve the specific customer during emergencies, but also to allow the utility to use the generators for system needs. (See HECO response to COM-HECO-DT-IR-1) The County of Maui testifies that HECO has not provided any past precedents where public utility commissions have allowed investor-owned public utilities to provide private or non-utility services on a tariff basis. This suggests that the services included in Progress Energy's Premier Power Service Rider are indeed utility services. Please confirm the County of Maui's position regarding this.

HECO/Maui-RT-RIR-15 Ref: COM-RT-1, page 8, line 13
According to the Exhibit, the cogeneration facility is not subject to regulation by the Louisiana Public Service Commission for a number of reasons including the following:

a. The cogeneration facility is jointly owned by PPG and Entergy, with each having fifty percent equity interest.
b. PPG will use its electric capacity on-site or will sell it in the wholesale power market.
c. Entergy will sell its power to a wholesale power marketer.
d. Entergy is a non-regulated company.
e. Entergy is an indirect owner of the cogeneration facility.
f. No owner is primarily engaged in the generation, transmission, distribution and/or sale of electricity.
g. No retail electric service will be provided by the facility.
h. No utilities or ratepayers will become obligated for any of the costs associated with the facility.

Considering these aspects, please explain how this determination sets a "precedent" for HECO's proposed utility-owned CHP Program?

HECO/Maui-RT-RIR-16 Ref: COM-RT-1, page 11, lines 3-7
The County of Maui suggests that entities involved in supplying equipment to the shipping and trucking industries would be better equipped to provide distributed energy equipment. What does Maui understand with regard to comparing the design,

installation, permitting, operation, and maintenance of stationary power generating equipment that is interconnected to the utility grid, with the equipment used in shipping and trucking?

HECO/Maui-RT-RIR-17 Ref: COM-RT-1, page 12, line 30

a. Please identify the utility referred to in the case study, and the approximate year of the project described.
b. What is that utility's current position regarding support of cogeneration?
c. What is that utility's current position regarding interconnection?
d. Did the utility ultimately implement a standby charge with approval of the public utility commission?

HECO/Maui-RT-RIR-18 Ref: COM-RT-1, page 16, lines 15-17, and lines 22-23

The County of Maui states "if ratepayer-funded employees are used by the utility to compete against private energy companies, then the public utility could have an unfair advantage over private energy companies" and "the COM is concerned that it is unfair for a utility to compete against a private energy company because ratepayers fund the utility's employees, but ratepayers do not fund a private energy company's employees."

a. By this logic, please explain whether the County of Maui believes that it is a fair for the utility to compete against any entity, since ostensibly the utility's ratepayers are not funding that entity.
b. If ratepayers are also shareholders or customers of a private energy company, how does this affect the County of Maui's concern?

HECO/Maui-RT-RIR-19 Ref: COM-RT-1, page 17, lines 11-21

MECO is supporting the deployment of DG and CHP on Maui via its proposed regulated CHP Program. If the Commission would be regulating MECO's CHP services as well as MECO's efforts to develop a new central generating facility, why wouldn't this be adequate to address the County of Maui's concerns regarding market power?

HECO/Maui-RT-RIR-20 Ref: COM-RT-1, page 18, lines 3-5

The County of Maui states that it may be more cost effective to encourage the design of relatively larger CHP units, optimized to meet the needs of the grid.

a. Explain the County of Maui's position on whether such systems, inasmuch as they are optimized for grid purposes, would be either owned by the utility or owned by an independent power producer.
b. If the County of Maui believes such systems should not be owned by the utility, explain why not.
c. If the County of Maui believes such systems can be owned by the utility, explain why.

HECO/Maui-RT-RIR-21 Ref: COM-RT-1, page 20, lines 13-15

a. What is the County of Maui's understanding with regard to whether HECO's new procurement process allows or does not allow an equipment vendor to supply equipment to a non-utility DG developer?
b. What is the basis for the County of Maui's fear of retribution theory? Did any equipment vendor express such a concern directly to Maui?

HECO/Maui-RT-RIR-22 Ref: COM-RT-1, page 27, line 27, to page 28, lines 1-3

The testimony states "HECO cannot guarantee that their CHP-related revenues will meet their market projections, nor can HECO guarantee that their CHP program will become successful. Therefore the Commission should consider the possibility of HECO failing in its CHP venture and protect ratepayers from such an eventuality."

a. Does the County of Maui believe that any business can ever guarantee its revenues, market projections, or program successes?
b. If the utility cannot guarantee the future outcome of a program, should the Commission disallow the utility from participating in that program?

HECO/Maui-RT-RIR-23 Ref: COM-RT-1, page 12, beginning line 5

a. Does the County of Maui allege that MECO has erected any "interconnection barriers" to the interconnection of DG/CHP customers on its system?
b. If the answer to part a. above is yes, please provide documentation to support your allegation.
c. Dose the County of Maui acknowledge that in MECO's Rule 14.H quarterly and annual reports, filed with the Commission in Docket No. 02-0051, there have been no reported disputes with customers that have interconnected, or are seeking to interconnect, to MECO's system?

HECO/Maui-RT-RIR-24 Ref: COM-RT-1, page 17, lines 4-9, page 24, lines 12-19, page 26, lines 22-23 to page 27, lines1-2, and page 28, lines 14-16

Please explain the apparent inconsistencies whereby the County of Maui is advocating the design of larger CHP systems and advocating DSM-type incentives for CHP systems (presumably to increase their deployment), and then characterizing that larger CHP systems could be made obsolete and the possible failing of MECO's CHP Program that is designed to facilitate the deployment of CHP systems.

HECO/Maui-RT-RIR-25 Ref: COM-RT-2, page 5, lines 12-15

a. How does the HHI index in a potentially highly concentrated market take into consideration that one of the market participants is regulated by a public utilities commission?
b. In deregulated electric markets, such as in California, isn't the HHI index "highly concentrated"?
c. For the CHP market in Hawaii, doesn't the existence of the Hawaii Public Utilities Commission, with its broad powers of regulatory oversight of the electric utility, significantly mitigate the potential for any deterrence of competition and/or delay in market development if CHP systems were provided by a regulated electric utility?

HECO/Maui-RT-RIR-26 Ref: COM-RT-1, page 8, lines 11-13
Please provide a copy of the Louisiana Public Service Commission decision discussed. Alternatively, for the Louisiana Public Service Commission decision referenced, in accordance with the prehearing order, please provide the file or docket number, decision and/or order number, and the name of the case/matter.

HECO/Maui-RT-RIR-27 Ref: COM-RT-1, page 8, lines 23-24, and page 9, lines 1-2
Please provide a copy of the New Mexico Public Utility Commission decision discussed. Alternatively, for the New Mexico Public Utility Commission decision referenced, in accordance with the prehearing order, please provide the file or docket number, decision and/or order number, and the name of the case/matter.

HECO/Maui-RT-RIR-28 Ref: COM-RT-1, page 3, lines 18-20; Exhibit COM-R-103
Please provide a copy of the entire National Renewable Energy Laboratory publication "Making Connections: Case Studies of Interconnection Barriers and their Impact on Distributed Power Projects".

HECO/Maui-RT-RIR-29 Ref: COM-RT-1, page 19, lines 15-17
COM states "In practice, HECO's new procurement process could exacerbate market power concerns against ESCOs in that equipment vendors may be reluctant to partner with ESCOs in competition with HECO due to fear or retribution." Please provide the basis for this statement, including copies of any documents and materials relied upon.

HECO/Maui-RT-RIR-30 Ref: COM-RT-1, page 20, lines 7-8
Please provide a copy of the book "The Innovator's Dilemma", authored by Clayton M. Christensen.

HECO/Maui-RT-RIR-31 Ref: COM-RT-1, page 28, lines 14-17
COM states "It is likely that the use of DSM rebates to encourage the development of CHP systems would cost less than an equal amount of central generation and power line capacity." Please provide the basis for this statement, including copies of any documents, materials and workpapers relied upon.

HECO/Maui-RT-RIR-32 Ref: COM-RT-2, page 3, footnote 1
Please provide a copy of "Williams and Rosen, A better Approach to Market Power Analysis, Tellus Institute, July 14, 1999".

HECO/Maui-RT-RIR-33 Ref: COM-RT-2, page 15, footnotes 7 and 8
Please provide a copy of Montana Department of Public Service Regulation, Order No. 5051c and Arizona Corporation Commission, Order No. 57649. Alternatively, please provide the following information concerning these orders, in accordance with the prehearing order, the file or docket number, the date of the order, and the name of the case/matter.

HECO/Maui-RT-RIR-34 Ref: COM-RT-2, page 19, lines 24-27
COM states "While there is still the risk of forced outages, this risk is very small (typically less than 5% for modern CHP systems), and the utility needs only to have about 5% of the capacity of CHP customers available during peak periods to provide standby service." Please provide the basis for the 5% risk of forced outages estimate, including copies of any documents and materials relied upon. Please identify what COM considers "modern CHP systems".

HECO/HELCO/MECO
Rebuttal Testimony ("RT") Rebuttal Information Requests ("RIRs") to Hawaii Renewable Energy Alliance ("HREA")

HECO/HREA-RT-RIR-1 Ref: HREA-RT-1, page 15, lines 10-22

a. Please provide a copy of the source or analysis used to develop the assumption of 75% average capacity factor for CHP units.
b. Please provide a copy of the source or analysis used to develop the assumption of $2,000/kW average system installation cost.
c. Please provide a copy of the source or analysis used to develop the assumption of 5% to 8% interest rates.
d. Please provide a copy of the source or analysis used to develop the assumption of an average heat rate of 9,300 Btu/kWh.
e. Please provide a copy of the source or analysis used to develop the assumption of 128,000 Btu to 140,000 Btu energy content in a gallon of diesel fuel.
f. Please provide a copy of the source or analysis used to develop the assumption of $1.00/gal to $1.25/gal of diesel fuel.

HECO/HREA-RT-RIR-2 Ref: HREA-RT-1, page 19, lines 13-14

a. Please provide your calculations that support your statement: "There would be no revenue losses to the public utility..."
b. Does this statement continue to hold true if CHP investments by third parties exceed load growth?

HECO/HREA-RT-RIR-3 Ref: HREA-RT-1, page 19, lines 19-26
Provide all workpapers showing the calculations and assumptions supporting the estimated potential revenue loss between $15.8M to $18.8M/yr.

HECO/HREA-RT-RIR-4 Ref: HREA-RT-1, page 6, lines 5-8
HREA states that DG serving the system as a whole should be considered as "export of power to a public utility by a Qualified Facility (QF)." Does HREA believe that a QF exporting power to the utility is the only case where DG serves the utility system as a whole?

HECO/HREA-RT-RIR-5 Ref: HREA-RT-1, page 6, lines 18-25
Does HREA believe there is such a thing as "Utility Services", and if so, what is its definition?

HECO/HREA-RT-RIR-6 Ref: HREA-RT-1, page 7, lines 3-4
Please clarify whether HREA is taking the position that all forms and applications of DG are "utility-related non-utility services."

HECO/HREA-RT-RIR-7 Ref: HREA-RT-1-C, page 3

According to the Exhibit, the cogeneration facility is not subject to regulation by the Louisiana Public Service Commission for a number of reasons including the following:

a. The cogeneration facility is jointly owned by PPG and Entergy, with each having fifty percent equity interest.
b. PPG will use its electric capacity on-site or will sell it in the wholesale power market.
c. Entergy will sell its power to a wholesale power marketer.
d. Entergy is a non-regulated company.
e. Entergy is an indirect owner of the cogeneration facility.
f. No owner is primarily engaged in the generation, transmission, distribution and/or sale of electricity.
g. No retail electric service will be provided by the facility.
h. No utilities or ratepayers will become obligated for any of the costs associated with the facility.

Considering these aspects, please explain how this determination sets a "precedent" for HECO's proposed utility-owned CHP Program?

HECO/HREA-RT-RIR-8 Ref: HREA-RT-1, page 11, lines 1-2

PEI Power's original project structure, wherein PEI would not have controlled and restricted the members of the class of people who could demand service, caused concerns that PEI would be functioning as a public utility.

a. Is it HREA's position that for a public utility to provide a service, it should not control and restrict the members of the class of people who could demand such service?
b. Does HREA believe that HECO is proposing to control and restrict the members of the class of people who could demand CHP service?
c. If the answer to subpart b. is yes, please explain in detail.

HECO/HREA-RT-RIR-9 Ref: HREA-RT-1, Exhibit RT-1-E

a. Did HREA's analysis take into account the benefits from revenues from the CHP systems' thermal charges and facilities fees?
b. If the answer to part a. above is no, please explain in detail why these revenues were not included the analysis.
c. How does HREA's analysis capture the benefits of deferring central-station generation costs?
d. For lines 21-23, why does HREA calculate utility profit based on a mortgage-type payment that includes principal and interest components.
e. For lines 21-23, how does HREA take into consideration the capital structure of the utility which is approximately 50% debt and 50% equity? Doesn't calculating utility profit on top of a mortgage-type payment overstate the "cost recovery" because a weighted average cost of capital was not used in the calculation?

HECO/HREA-RT-RIR-10 Ref: HREA-RT-1, page 9, lines 16-20
Please provide a copy of the Louisiana Public Service Commission decision discussed. Alternatively, for the Louisiana Public Service Commission decision referenced, in accordance with the prehearing order, please provide the file or docket number, decision and/or order number, and the name of the case/matter.

HECO/HREA-RT-RIR-11 Ref: HREA-RT-1, page 10, lines 19-21
Please provide a copy of the Pennsylvania Public Utility Commission decision discussed. Alternatively, for the Pennsylvania Public Utility Commission decision referenced, in accordance with the prehearing order, please provide the file or docket number, decision and/or order number, and the name of the case/matter.